

REMARKS

Applicants submit this Reply in response to the non-final Office Action mailed on April 5, 2010. Prior to this Reply, claims 35-95 were pending in this application, of which claims 35, 53, 71, and 85 are independent. By this Reply, Applicants have amended claims 35 and 53 and canceled claims 42 and 43 without prejudice or disclaimer. Applicants have also added new claims 96-118. Thus, claims 35-41 and 44-118 are submitted for examination in the application, of which claims 35, 53, 71, 85, 96, and 108 are independent. No new matter has been added.

As an initial matter, Applicants respectfully note that although the Office Action Summary indicates that claims 69 and 70 have been rejected, the Office Action does not provide any basis for rejecting those claims. Applicants respectfully request that if, after thoughtful consideration of this Reply, the Examiner does not withdraw the rejection of those claims, that the Examiner provide an explanation of the rejection of claims 69 and 70. Further, if those claims continue to be rejected, Applicants respectfully request that the next Office Action be designated "non-final," so that Applicants will be provided with a fair opportunity to respond to the rejection of those claims.

In the Office Action, the Examiner rejected claims 35-53 under 35 U.S.C. § 103(a) as being unpatentable over JP 53080602 ("Fukuda") in view of U.S. Patent No. 3,773,096 ("Masson"), JP 2003-320804 ("Mine"), and/or JP 2002-52906 ("Ito"); rejected claims 53-68 under § 103(a) as being unpatentable over Fukuda in view of Masson, Mine, and Ito, and further in view of U.S. Patent No. 6,635,132 ("Caretta"); rejected claims 71-84 under § 103(a) as being unpatentable over Fukuda in view of (a) Masson,

Mine, and/or Ito and (b) EP 847,800 ("Matsuo") and/or JP 2000-118212 ("Tsuboi"); and rejected claims 85-95 under § 103(a) as being unpatentable over Fukuda in view of (a) Masson, Mine, and/or Ito, (b) Matsuo and/or Tsuboi, and (c) Caretta.

Applicants respectfully traverse all pending rejections for at least the reasons discussed below.

Rejections Under 35 U.S.C. § 103(a)

Applying 35 U.S.C. § 103(a), the Examiner rejected claims 35-68 and 71-95 for the above-outlined reasons. However, a *prima facie* case of obviousness, the requirements of which are discussed below, has not been established for each rejected claim, as amended.

To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must disclose all of the claim limitations, or the claim rejection must explain why the differences between the prior art and the claim limitations would have been obvious to one of ordinary skill in the art. See M.P.E.P. § 2141.

A *prima facie* case of obviousness has not been established because, among other things, none of Fukuda, Masson, Mine, Ito, Caretta, Matsuo, or Tsuboi, alone or in any combination, teaches or suggests every feature of Applicants' claims. Specifically, no reference cited by the Examiner teaches or suggests at least, "wherein a ratio between an IRHD hardness at 23°C of the first elastomeric material and an IRHD hardness at 23°C of the second elastomeric material is 1.15 to 2.70 such that the cross section of the at least one longitudinal groove remains substantially constant when a radially outer surface of the tread band is in contact with the ground," as recited in

amended independent claim 35. Independent claim 53 has been amended to recite similar features.

In the specification, Applicants recognize a desire to provide pneumatic tires that adequately drain water from a wet surface away from the tread surface in order to maintain proper vehicle handling and safety. In order to achieve this function, some pneumatic tires comprise a longitudinal groove that extends over the circumferential development of the tread. This groove is intended to channel or drain surface water away from the tire tread. However, Applicants have identified several potential problems and shortcomings associated with the longitudinal grooves and tire treads known in the art. For instance, Applicants note that when the tread surface is in contact with the road or driving surface, the side walls of these water draining grooves undergo an elastic deformation due to, among other things, the weight of the vehicle. This deformation may reduce the cross section of the grooves in the tire tread, which may adversely affect their usefulness in draining surface water away from the tread surface.

To address this problem, Applicants have proposed, in one exemplary embodiment, a tire tread comprised of first and second sectors, the first sectors comprised of a harder composition than the second sectors. The longitudinal groove may be located within the harder first sectors which may serve to minimize the reduction in the groove's cross section when the tire is in use. Furthermore, Applicants disclose an exemplary ratio between the hardness of the material of the first sector and that of the second sector of between 1.15 and 2.70. Referring to exemplary embodiments, Applicants' specification explains:

More preferably, the ratio between the IRHD hardness at 23°C of the first elastomeric material, measured according to standard ISO

48, and the IRHD hardness at 23C of the second elastomeric material, measured according to standard ISO 48, is comprised between about 1.15 and 2.70.

In such a way, the first and second axially adjacent sectors 9, 10 of the tread band 6 advantageously allow, thanks to their different mechanical characteristics, to keep substantially constant the cross section of the longitudinal grooves 11 when the radially outer surface 6a of the tread band 6 gets in rolling contact with the ground.

Specification at page 11, lines 5-12.

In the Office Action, the Examiner asserts:

Fukuda teaches a pneumatic tire construction having a tread formed of a first elastomeric material 6 and a second elastomeric material 5 . . . , wherein said first elastomeric material is included in a groove section of the tread. The reference further teaches that the first elastomeric material provides higher wear resistance than the second elastomeric material.

Office Action at 2. The Examiner further asserts, with respect to Applicants' previously-claimed hardness ratios between first and second sectors:

[T]he claimed ranges are extremely broad and include relative language to define their lower and upper limits ('about'). Additionally, the claimed values are consistent with those commonly associated with tire components, including tread compositions. Absent any conclusive showing of unexpected [results], one of ordinary skill in the art at the time of the invention would have found it obvious to use compositions having the claimed hardness.

Id. at 4. Applicants respectfully disagree with these assertions.

Even assuming, *arguendo*, that the Examiner's assertion that "the claimed values [of hardness] are consistent with those commonly associated with tire components," were correct (a notion with which Applicants disagree), Fukuda nowhere appears to disclose a particular ratio between the hardness of the first and second sectors selected such that the cross section of a longitudinal groove in the first sector remains

substantially constant while the tire is in use. Thus, that reference does not teach or render obvious, "wherein a ratio between an IRHD hardness at 23°C of the first elastomeric material and an IRHD hardness at 23°C of the second elastomeric material is 1.15 to 2.70 such that the cross section of the at least one longitudinal groove remains substantially constant when a radially outer surface of the tread band is in contact with the ground." Furthermore, no secondary reference cited by the Examiner cures these deficiencies of Fukuda, nor does the Examiner assert that they do.

Applicants also note that new independent claims 96 and 108 also recite, in part, "wherein a ratio between an IRHD hardness at 23°C of the first elastomeric material and an IRHD hardness at 23°C of the second elastomeric material is 1.15 to 2.70 such that the cross section of the at least one longitudinal groove remains substantially constant when a radially outer surface of the tread band is in contact with the ground." Thus, these new claims should be allowable for the same reasons as independent claims 35 and 53. Also, new claims 97-107 and 109-118 each depend from one of new independent claims 96 and 108 and, thus, contain all the elements and limitations thereof. Accordingly, dependent claims 97-107 and 109-118 are allowable at least due to their corresponding dependence from independent claims 96 and 108.

Furthermore, a *prima facie* case of obviousness has not been established for independent claims 71 and 85 because, again, none of Fukuda, Masson, Mine, Ito, Caretta, Matsuo, or Tsuboi, alone or in any combination, teaches or suggests every feature of those claims. Specifically, no reference cited by the Examiner teaches or suggests at least, "an underlayer interposed between the tread band and the belt

structure suitable for providing global rigidity to the tread," as recited in independent claim 71. Independent claim 85 recites similar features.

Applicants' specification explains the advantages of an underlayer having a modulus of elasticity greater than that of a second elastomeric material and capable of providing global rigidity to the tread. The underlayer is able to compensate for the lower modulus of elasticity of the second elastomeric material, the material mainly in contact with the road, thereby achieving a global rigidity of the tread both along the longitudinal and the transversal directions adapted to optimize the performance of the tire.

Applicants' specification explains, with respect to at least one exemplary embodiment:

In this way, the first sectors form a single body with this radially inner layer from which they extend along a radially outer direction. Advantageously, this preferred embodiment allows to compensate the modulus of elasticity of the second elastomeric material with an underlayer having a modulus of elasticity greater than that of the second elastomeric material (the one mainly in contact with the road surface), achieving a global rigidity of the tread both along the longitudinal and the transversal directions adapted to optimize the performances of the tire such as the driving behavior.

Specification at page 6, lines 11-17. No reference cited by the Examiner teaches or suggests these features.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of independent claims 35, 53, 71, and 85 under 35 U.S.C. § 103(a).

Moreover, claims 36-41, 44-52, 54-70, 72-84, and 86-95 each depend from one of independent claims 35, 53, 71, and 85 and, thus, contain all the elements and limitations thereof. Accordingly, dependent claims 36-41, 44-52, 54-70, 72-84, and 86-

95 are allowable at least due to their corresponding dependence from independent claims 35, 53, 71, and 85.

Claim Scope

It is to be understood that Applicants are in no way intending to limit the scope of the claims to any exemplary embodiments described in the specification or abstract and/or shown in the drawings. Rather, Applicants believe that they are entitled to have the claims interpreted broadly, to the maximum extent permitted by statute, regulation, and applicable case law.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of all of pending claims 35-41, 44-77, and 80-95.

If the Examiner believes that a telephone conversation might advance prosecution of this application, the Examiner is cordially invited to call Applicants' undersigned attorney at (404) 653-6435.

Applicants respectfully submit that the Office Action contains a number of assertions concerning the related art and the claims. Regardless of whether those assertions are addressed specifically herein, Applicants respectfully decline to automatically subscribe to them.

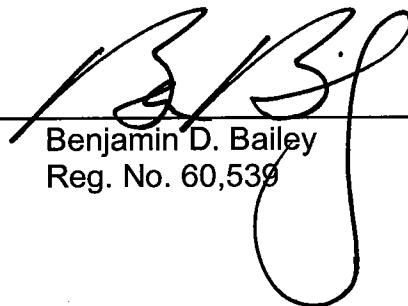
Please grant any extensions of time required to enter this Reply and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Dated: July 14, 2010

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